



Increasing insect reactions in Alaska: Is this related to changing climate?

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Abstract:

In 2006, Fairbanks, AK, reported its first cases of fatal anaphylaxis as a result of Hymenoptera stings concurrent with an increase in insect reactions observed throughout the state. This study was designed to determine whether Alaska medical visits for insect reactions have increased. We conducted a retrospective review of three independent patient databases in Alaska to identify trends of patients seeking medical care for adverse reactions after insect-related events. For each database, an insect reaction was defined as a claim for the International Classification of Diseases, Ninth Edition (ICD-9), codes E9053, E906.4, and 989.5. Increases in insect reactions in each region were compared with temperature changes in the same region. Each database revealed a statistically significant trend in patients seeking care for insect reactions. Fairbanks Memorial Hospital Emergency Department reported a fourfold increase in patients in 2006 compared with previous years (1992-2005). The Allergy, Asthma, and Immunology Center of Alaska reported a threefold increase in patients from 1999 to 2002 to 2003 to 2007. A retrospective review of the Alaska Medicaid database from 1999 to 2006 showed increases in medical claims for insect reactions among all regions, with the largest percentage of increases occurring in the most northern areas. Increases in insect reactions in Alaska have occurred after increases in annual and winter temperatures, and these findings may be causally related.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Climate Change and Human Health Literature Portal


United States

Health Impact: 

specification of health effect or disease related to climate change exposure

Morbidity/Mortality, Other Health Impact

Other Health Impact: Insect reactions

Resource Type: 

format or standard characteristic of resource

Research Article

Timescale: 

time period studied

Time Scale Unspecified